

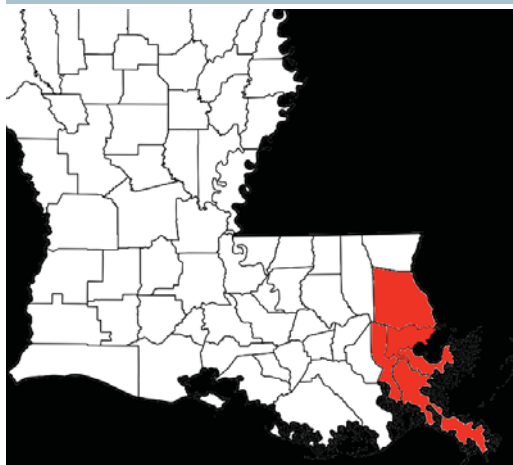
VOLUME 3 chapter 11 TRANSPORTATION

A Context

1. Transportation Planning in New Orleans

The largest transportation planning effort in New Orleans in recent years was contained within the 2004 transportation element of the New Century New Orleans Master Plan, which presented goals and recommendations for shaping the transportation system in New Orleans in the future. Transportation was also discussed in the recovery plans created in the aftermath of Hurricane Katrina and over the decades prior to the storm. Transportation planning has been an ongoing process throughout the city's history, as exemplified by the remaining and restored streetcar lines that currently operate within city limits, and the original street grid of the French Quarter. And over the years, studies and plans large and small have

MAP 11.1: NEW ORLEANS MPO



addressed various transportation issues involving roads, highways and transit by proposing solutions intended to make movement throughout the city more efficient and accessible. In 1975, for example, the firm Wallace M. Harg conducted a Growth Management Plan, whose primary purpose was to assist in the revitalization of the New Orleans Central Business District. The plan recommended, but never fully implemented, changing the modal split of people entering the CBD from what was then a 50/50 transit/automobile split to a 75/25 transit/automobile split. Due to several factors, however, the opposite has occurred, with far more people currently reaching the CBD via automobile. This chapter builds upon the findings and recommendations of these other plans, weaving them together into an overall building strategy.

City-led plans are implemented both by private investment through the land development process, and by public investment through the capital and operating budgets of the City and the New Orleans Regional Transit Authority (NORTA). In addition, the federal government requires that areas with an urban population of over 50,000 form a Metropolitan Planning Organization (MPO) that is comprised of elected and appointed community officials from both the core city and surrounding urbanized areas. The Regional Planning Commission (RPC) is the MPO for the New Orleans region. The RPC conducts planning activities in Jefferson, Orleans, Plaquemines, St. Bernard, and St. Tammany parishes. The RPC's transportation responsibilities include coordination of cross-parish planning such as the transit plan for rail service between downtown and the Louis Armstrong New Orleans International Airport, the Mississippi River Greenway Initiative, approval of local transportation improvement programs for state (STIP) and federal (TIP) funding, and initiation, technical review and support of local transportation planning, programming and funding initiatives, including the City's Department of Public Works' capital program funds and federal emergency Submerged Roads Program.

**TABLE 11.1:
VEHICLE OWNERSHIP
IN NEW ORLEANS**

NUMBER OF CARS	PERCENT OF HOUSEHOLDS
Zero	20%
One	45%
Two or More	35%

2. The Transportation Network

A. ROAD NETWORK

Roads are the dominant feature in the transportation network of New Orleans. Within the city, there are 1,652 miles of city-maintained streets and 105 miles of state and federal highways maintained by the Louisiana Department of Transportation and Development (LaDOTD). This road network includes 2 river bridges, 4 lake bridges, and 460 traffic signals.

Wide boulevards cut across much of the city, often defining neighborhood boundaries, their character, or both. Many of these boulevards were constructed before the automobile became the dominant mode of transportation. Often lined with large trees and sidewalks, many have a landscaped neutral ground originally designed to carry storm water and/or horse cars, the predecessor to the streetcar. Canal Street, St. Charles Avenue and Carrollton Avenue are examples of boulevards that offer streetcar service. Between these boulevard streets is a grid-like road network. Areas that developed in the twentieth century were designed with the automobile in mind and have fewer boulevards. Roads like Tulane Avenue and Dwyer Road opened up new areas of the City but provide less connectivity supporting pedestrian and bicycle travel.

A centrally controlled traffic system, introduced in New Orleans after the storm, offers the potential for the system to vary its signal timing based on daily shifts in demand, special accommodation needed for major events, or evacuation needs. The new signal equipment also enables buses equipped with special devices to be detected as they approach an intersection and receive green before they otherwise would. The system at present is not fully operational due to funding limits but has the potential to improve both the reliability and speed of transit service and evacuation.

Major Street Plan

The City Planning Commission is responsible for developing and adopting a Major Street Plan that can guide decision-making for street improvements. As noted in the 2004 transportation element of the uncompleted pre-Hurricane Katrina master plan, the current Major Street Plan, was adopted by the City Planning Commission in June 1993 and many aspects of it are now obsolete. The plan calls for major road expansion in what is now Bayou Sauvage National Wildlife Area, and in other undeveloped parts of New Orleans. This current Master Plan calls for focusing future development in existing neighborhoods as infill and along existing corridors in areas already provided with urban infrastructure. *(See the existing and proposed Major Street Plan at the end of Volume 2, Chapter 11.)*

Functional Classifications and Street Typologies

Roadways are classified in a hierarchical system designed to provide different levels of mobility (speed) and access (ability to enter adjacent property). The functional classification system is useful in understanding the road network as a framework for transportation in New Orleans. The roads in the City of New Orleans are functionally classified according to the following four categories:

- **Freeways** have the highest level of automobile mobility. Traffic can enter and exit only through the use of ramps, and there are no at-grade intersections. I-10 and the Pontchartrain Expressway portion of Business US 90 are freeways.
- **Highways** provide a high level of mobility and link activity centers within a metropolitan area. Access to other roads is generally provided with at-grade intersections and not interchanges. Highways provide very limited access to individual properties. Highways in New Orleans



Boulevard in New Orleans with streetcar

- **Major streets** connect neighborhoods, businesses, and community facilities to highways and freeways. Major streets typically have two to six lanes and carry medium volumes of traffic. In New Orleans they are generally spaced less than a mile apart and include St. Charles Avenue, Louisiana Avenue, Hayne Boulevard, and Franklin Avenue. Most of the boulevard-style streets are classified as major streets.
- **Local streets** provide the greatest access to properties, have low speeds, and are usually two lanes.

Since a roadway functional classification system alone does not address the range of uses for the roadway, a second level of classification is needed to consider the circulation and access needs for efficient transit service, safe and convenient bicycling and comfortable pedestrian trips. Street typologies characterize roadways within the context of the adjacent land uses, considering all transportation functions they are intended to serve. An example of a street type is a local street that allows the greatest access to driveways



also being typed as a priority neighborhood street for children walking from home to a nearby elementary school. Streets can also be categorized according to non-auto travel systems. These include roads that provide critical network connections for goods movement, bicycle travel, and transit vehicles.

Truck Infrastructure Freight Routes

New Orleans is well served by highways and interstates to accommodate commercial truck traffic. Among the principal truck routes serving New Orleans are:

- Interstate 10, providing east/west access from New Orleans
- Interstate 59, providing access to the northeast of the city
- Interstate 55, providing access due north of the New Orleans region
- US Highway 90, providing an alternate east/west access route

Within New Orleans, truck movements are restricted to official Heavy Truck Routes designated by the city. Neighborhood residents everywhere do not like truck traffic. These routes were chosen because they are able to carry heavy truck traffic with limited impacts on residential neighborhoods. Many truck routes serve the Port of New Orleans and connect it to the highways and interstates leading out of the city. The routes also allow trucks making local deliveries to get as close to their destinations as possible before using non-truck routes.

An example of an important truck route is the Tchoupitoulas Corridor. The route begins with the Clarence Henry Truckway, a truck only road that serves the Napoleon Avenue Terminal and Nashville Avenue Terminal container facilities, and directs truck traffic to the riverside of the Mississippi River floodwall and away from nearby residential neighborhoods. The truckway has successfully met the trucking needs generated by the Port of New Orleans while at the same time has minimized impacts to residential neighborhoods. At Felicite Street, the corridor uses the Tchoupitoulas Street/Religious Street couplet to reach I-10, the Pontchartrain Expressway, and the Crescent City Connection. Notably, the Tchoupitoulas Corridor does not extend into Jefferson Parish, so trucks traveling west on I-10 or Airline Highway must use other truck routes such as Carrollton Avenue or travel east and pick up I-10 in downtown.

In New Orleans East, truck routes are considered adequate now and in the future, although the Almonaster Bridge—which is used by some of the routes to cross the InterCoastal Navigation Canal—was identified as structurally deficient prior to Hurricane Katrina.

General consensus indicates that the current truck route map is reasonably effective at keeping trucks on the most optimal, least intrusive major streets. Because New Orleans is an historic city with few opportunities for expanding rights of way, the city can realistically make few major improvements to the city's commercial trucking infrastructure. Enforcement of traffic laws, ensuring that trucks adhere to the official truck routes, and ensuring that the truck routes remain well paved are the principal ways that the city can maintain its truck infrastructure.

Traffic Volumes and Level of Service

Traffic volumes coupled with intersection capacity are generally used to measure auto level of service. They help the City identify traffic deficiencies that are typically addressed with additional travel lanes or adjustments to signal timing that controls traffic operations. They are the basic measure used to mitigate new traffic created by new development. The City continues to rely on pre-Hurricane Katrina traffic counts on most roadways. Traffic volume relative to capacity alone cannot prescribe the best solution for the scale and attributes of a particular road. The type of traffic such as dominant mode, trip type, and time of day, as well as land use connectivity and character needs, must be considered and weighed prior to settling on design features.

Level of Service

As defined in the Highway Capacity Manual 2000, Level of Service or LOS is a quality measure describing operational conditions within a traffic stream, generally in terms of service measures such as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. It considers traffic demand (e.g., volume) and capacity (e.g., lane geometry, roadway conditions, signal timing, etc.). Six LOS are defined for each type of facility that has analysis procedures available. Letters designate each level, from A to F, with LOS A representing the best operating conditions and LOS F the worst. Each level of service represents a range of operating conditions and the driver's perception of those conditions. Safety is not included in the measures that establish service levels.

While the Highway Capacity Manual provides methods to determine LOS by mode (automobile, pedestrian, bicyclist, transit rider), most analyses focus on auto LOS. For signalized intersections, LOS D or better is generally considered to be acceptable, and LOS E and F are considered unacceptable. Mitigation measures are typically evaluated for signalized intersections that operate at LOS E or F, such as modifying the signal timing, or increasing capacity by adding lanes or reconfiguring the lane geometry. In practice, LOS is usually focused on the speed and unimpeded flow of vehicle traffic. It is therefore an insufficient measure for complex urban conditions where multiple travel modes exist and are to be encouraged.

Traffic Impact Analysis

When new development occurs, new automobile trips are typically added to the road network. Local jurisdictions often require a traffic impact analysis (TIA) to see how the surrounding road network will be affected and to determine if mitigation measures are needed. New Orleans' Comprehensive Zoning Ordinance (CZO) sets guidelines for when traffic impact analysis within the CBD is needed. However, the City applies these guidelines citywide for all new developments and large renovations. If a development is found to have a "significant adverse impact" on the transportation system, mitigation may be required. "Significant" impacts are not defined in the CZO, but an intersection level of service of D or better is generally deemed to be acceptable. Mitigation may take the form of rideshare coordination by the employer; roadway or signalization improvements; and participation in RTA employer-subsidized transit pass programs. Two of these three suggested measures are designed to reduce the number of automobile trips, while the third measure simply accommodates them. The ridesharing and transit incentives programs are only effective if the system is extensive and if they are maintained, monitored and enforced on a regular basis because they present an ongoing expense to the employer.

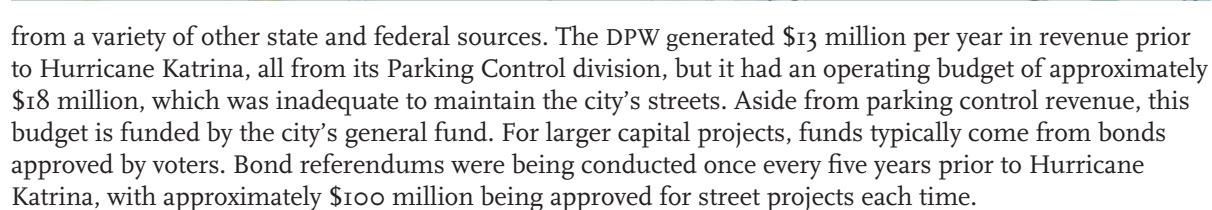
Bridges

Bridges and levees function as a part of the overall street section. Bridges located on major truck routes are regularly monitored for structural load capacity. Projects to rehabilitate deficient bridges include the Michoud Boulevard Bridge over Maxent Canal (completed); four bridges over Bayou St. John; Martin Drive Bridge over Morrison Road; and Wisner Boulevard Bridge over I-610. Additionally, bridges are very costly and are replaced or upgraded infrequently (every 50 years or more) and thus, when redesigned, should be routinely considered for both motorized and non-motorized traffic (bicycling and walking).

Road repair and maintenance

By law, the Regional Planning Commission (RPC) is tasked with distributing federal transportation funds that are dedicated to New Orleans. Prior to Hurricane Katrina, the RPC was receiving about \$13.5 million per year from the Federal Highway Administration (FHWA) and \$11 to \$13 million per year from the Federal Transit Administration (FTA). The RPC works with local agencies to determine how to best program these funds.

Roads in New Orleans are maintained by the LaDOTD and the city's Department of Public Works (DPW). In addition, federal funds from the Federal Highway Administration (FHWA) flow to New Orleans through the Regional Planning Commission in its role as the Metropolitan Planning Organizations (MPO). Before the storm, the RPC typically received about \$13.5 million per year in FHWA fund. LaDOTD also receives funds



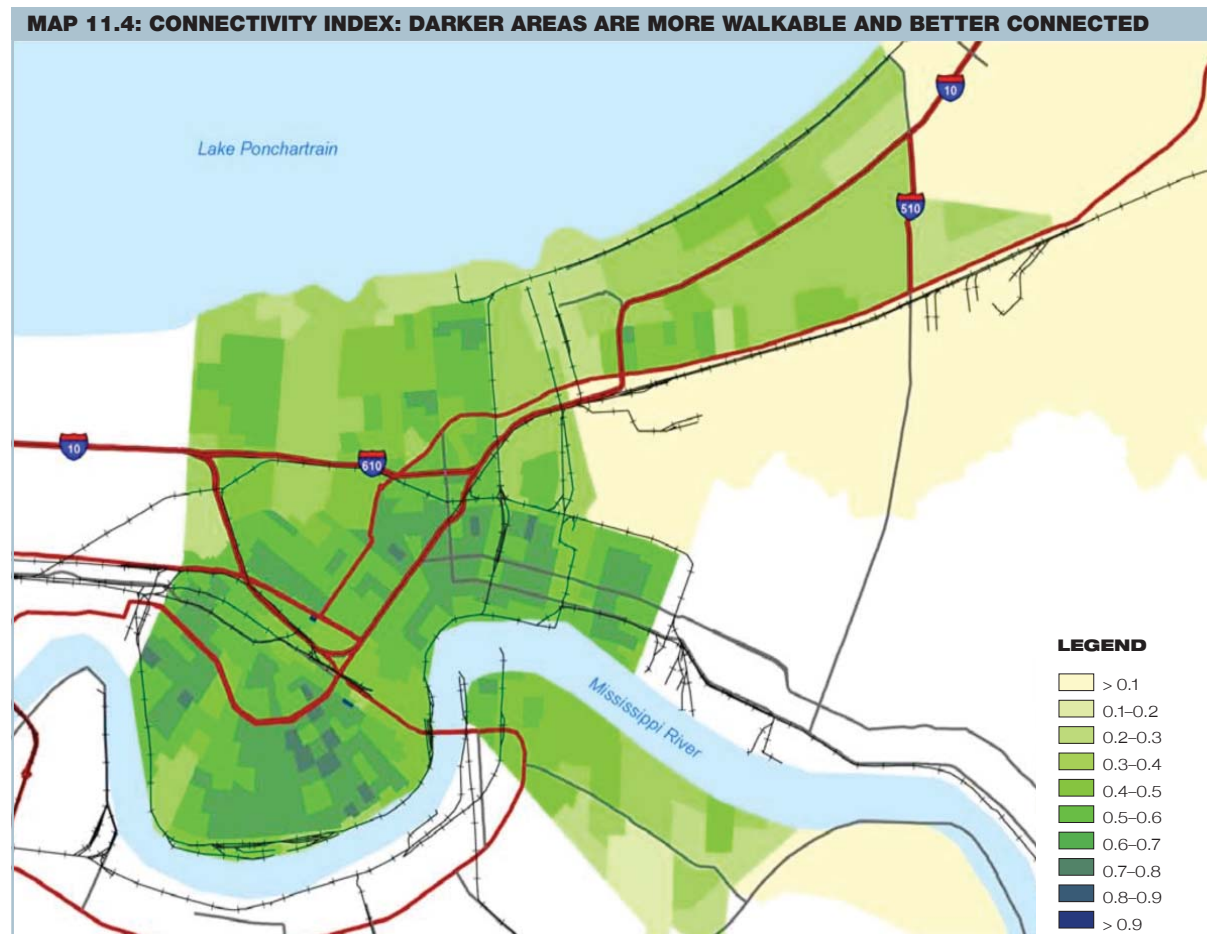
The post-Hurricane Katrina flood put about 60 billion gallons of water on New Orleans streets for 21 days. As a result, many roads that already may have needed repair and maintenance were severely damaged. All 460 traffic signals were damaged, with 200 needing complete replacement; 30,000 traffic and street signs needed to be restored; over 10,000 street lights required restoration; and catch basins and drainage lines had to be cleaned and rebuilt. The sources of funding to repair and improve the city's road infrastructure are FEMA, D-CDBG funds, and DPW bond proceeds from pre-Hurricane Katrina bonds. In 2008 a new program, the federal Submerged Roads Program, a \$90 million program,

was funded. This program has created a new model of project delivery for the city. Rather than further taxing limited staff and financial resources, this program allows federal contracting vehicles to be used to develop design plans and manage contractors. In addition, it also presented the City with another model for expanding its bicycle network. Most of the streets being reconstructed in the Submerged Roads Program are arterial or higher order urban streets, appropriate for lanes dedicated to bicycle transportation. For each mile of road that is repaired a new lane of bicycle accommodation is being added to the city's network plan.

Up to mid-2009, road and drainage system repairs, plus bridge improvements, streetscape enhancements, and pothole repairs have required over \$500 million in funding, and more road projects are underway or in design.

B. PEDESTRIAN FACILITIES

Many streets and neighborhoods in New Orleans have sidewalks, densities, and land use patterns that support pedestrian activity. Property owners are legally responsible for the sidewalks in front of their properties, so pedestrian infrastructure improvements are rare. Although the New Orleans Department of Public Works received millions in funding from FEMA for sidewalk repairs after Hurricane Katrina, no specific program currently exists to install missing sidewalks or maintain those that currently exist. Many sidewalks are in poor condition and need major repairs and most intersections lack modern features such as ADA ramps. Pedestrian crossing signals are also absent. In newer areas of the city, sidewalks are less common. Since Hurricane Katrina, the percentage of walking commutes in New Orleans has decreased from 5 to 4 percent. **[See Chapter 5 for a discussion of betterment programs as a vehicle for sidewalk improvements.]**



Montgomery County, Maryland has developed a pedestrian friendliness index. This index is calculated with a model that uses block length, census-block density, and intersection type as input variables. The model was calibrated with field data. By requiring only readily available data, the model allows pedestrian conditions to be analyzed over large areas without undertaking time-consuming field data collection. In the index, a rating near zero indicates a poor pedestrian environment, while a rating close to one indicates a good pedestrian environment. As shown in the map 11.4, large areas of New Orleans rank quite high on this index (darker shades). With safe and well-maintained sidewalks as well as crosswalks and crossing signals, New Orleans' residents can take advantage of the city's high level of connectivity.

C. BICYCLE FACILITIES

Before Hurricane Katrina, New Orleans had only 9 miles of bikeways, which include bike lanes, shared lanes, and multi-use paths. Recognizing the potential to vastly improve bicycling in the city, particularly given reductions in transit service, the Regional Planning Commission created a Bicycle Master Plan in 2005, and the city has expanded bicycle facilities as part of the rebuilding process. There are now 20 miles of bikeways in the city, with plans for 42 miles by 2010. The City's DPW has a goal of 120 miles of improved bikeways throughout the city, including parks. Commuting by bicycle has grown from one percent of commuters before the storm to three percent by 2009. This is a very high percentage for an American city, but especially one with so little bicycle infrastructure.

Although the RPC's bicycle master plan calls for 320 miles of exclusive bike lanes, 167 miles of shared lanes, 32 miles of wide shoulders, 9 miles of bike boulevards, and 3 miles of trails, the RPC is currently advocating that more of the system be built as bike boulevards. Bike boulevards are roads that have relatively low traffic volumes, usually residential streets, and where improvements have been made to enhance safety and comfort for bicyclists. The long-term plan would be implemented over time, with the

MAP 11.5: EXISTING AND PLANNED BICYCLE ROUTES



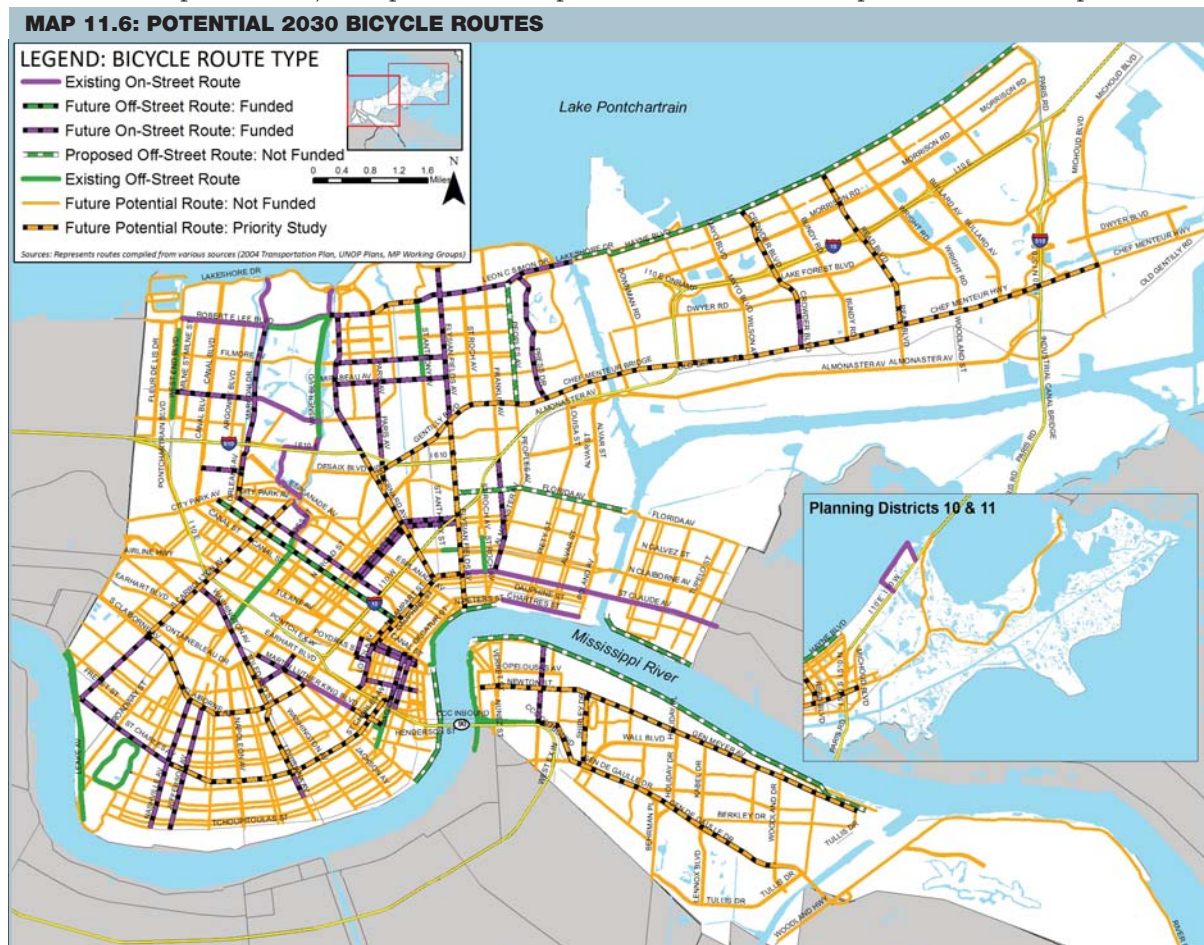
majority of lanes added as roads are reconstructed or resurfaced. The RPC should ensure that accepted national best practices for design standards and safety measures are incorporated into plans. The RPC is also helping to organize cross-parish routing, communications, and advocacy. Activists in 2009 have been developing a bicycle route map for the city. See <http://nolacycle.blogspot.com/>.

D. MULTI-USE PATHS AND GREENWAYS

Communities around the country are working to tie neighborhoods together through networks of continuous multi-use paths and greenways that provide safe connections to important destinations such as schools, parks, and local businesses. Post-Hurricane Katrina plans in New Orleans have emphasized the importance of an interconnected system of bicycle facilities in providing safe, convenient transportation choices. The UNOP plan identified more than 80 distinct bicycle projects. Taken together, these projects provide the template for an interconnected system of greenways, multi-use paths, and on-street facilities.

The current system in New Orleans provides an important foundation for this vision. The current system is comprised of multi-use paths spread around the city and include the Wisner Blvd Trail, Robert E. Lee Blvd Trail, Jefferson Davis Blvd Trail, and the Mississippi River Trail on the levee Uptown. The current trails provide the start of an interconnected system.

Creating an interconnected trail system will require strategic additions to the existing set of trails. The first planned expansion of the system is the Lafitte Greenway. Currently funded and in the planning phase, this greenway will be built on a former canal and rail line connecting Basin Street with Canal Boulevard and touching the Central Business District, French Quarter, Tremé, Mid-City, and Lakeview. Careful trail-oriented development of adjacent parcels will help to revitalize the area and provide a vital transportation



link through the core of the city.

The construction of the Lafitte Greenway and accompanying design guidelines and trail-oriented development revitalization strategy will form the framework for other greenway and multi-use path projects. Key future projects identified through the planning process include Peoples Avenue, the river levee in the Lower 9th Ward, Florida Avenue, and the Mississippi Riverfront. Transportation and revitalization planning in these areas should include provision for these greenways.

E. PARKING

On-street parking is one of many uses in the public right of way, a limited and increasingly valuable area of municipal real estate. Parking directly competes with use of the right of way with bike lanes, automobile travel lanes, sidewalks or landscaping. These are all important elements of the public streetscape. When cities limit or forego these elements in order to provide parking, that parking should be used to its highest possible purpose to benefit the community. Costs for off-street parking vary widely; a minimal parking structure can be developed for as low as \$10,000 per space, but once design elements are incorporated to make a parking structure compatible with its surroundings, costs can easily reach \$20,000 per stall or more.

Given the scarcity of public right of way and the high costs of parking construction, cities have an obligation—and an opportunity—to manage public parking. Parking policies should be evaluated and implemented with the following principles in mind:

- **People don't come to cities to park.** Cities are a place to work, live, shop, dine, and play, and parking is a means of access. The demand for parking is derived from the demand for these other activities.
- **Cities don't provide parking in order to store cars.** Like roadways, transit service, sidewalks, and other transportation facilities, public parking is an infrastructure investment in one of the critical links in the transportation/land use connection. Cities provide parking to support the development and viability of adjacent land uses.
- **Parking does not live alone.** Parking resides in a complex and dynamic universe of transportation, access and land use alternatives. The demand for parking is certainly affected by the price for parking; but demand is also affected by cost, convenience, and the availability of other modes, as well as development patterns that support walking and combining trips.

Off-street parking requirements for different types of facilities are stipulated in the CZO with different requirements for the Central Business District (CBD), the French Quarter and several other historic districts, and all other portions of the city. On-street parking is generally scarce in the CBD and French Quarter, and many blocks often have no spaces available. However, on-street parking is generally plentiful throughout the rest of the city, where the CZO requires substantial off-street parking. With a few exceptions

TABLE 11.2: SELECTED MINIMUM PARKING REQUIREMENTS

	FRENCH QUARTER	CBD	OTHER AREAS—LOW- AND MEDIUM-DENSITY	OTHER AREAS— HIGH-DENSITY
Single-family dwelling	none	none	1 or 2/unit**	1 or 2/unit**
Restaurant	none	none or 1/800 sf floor area*	1/150 sf floor area	1/250 sf floor area
Retail Store	none	none or 1/600sf floor area*	1/200 sf ground floor area and 1/400 sf upper floor area	1/300 sf ground floor area and 1/600 sf upper floor area

* varies depending on location within CBD

** varies depending on type of land use zoning

SOURCE: CITY OF NEW ORLEANS

(e.g., Mid-City, Uptown and the Garden District), in most areas a reduction in parking requirements for new developments and/or allowances for shared parking and off-site parking within walking distance would not make it difficult for customers or residents to find close parking. Unnecessarily high parking mandates mean that the land cannot be used for building, green space, or other valuable uses, and it operates as a disincentive for development styles and land use patterns that promote pedestrian, bicycle and transit use.

F. TRANSIT

As in many cities, New Orleans earliest public transportation system became the fixed route transit service provided today. The buses that made up most of the transit system before Hurricane Katrina had largely replaced the ubiquitous streetcar system of the early part of the last century. Today, buses, streetcars, and paratransit (on-call vans, usually serving disabled persons) are managed by the New Orleans Regional Transit Authority (NORTA), while three ferries that cross the Mississippi River are managed by the Crescent City Division of the Louisiana Department of Transportation. NORTA was heavily impacted by Hurricane Katrina, and still only provides a fraction of pre-Hurricane Katrina service. Despite the “regional” name, NORTA operates only within the City of New Orleans, with one line to Kenner before the storm. Jefferson Parish has a separate transit system, Jefferson Transit (JeT).

Unlike many transit systems, NORTA has traditionally depended to a great degree on fares for its operational costs. The fare in 2009 is \$1.25 or a \$55-per-month system pass. This means that the decline in ridership associated with the storm had significant financial consequences for operating the system. Transit capital improvements are financed by NORTA resources, through bond proceeds, and by Federal Transit Administration funds. The Regional Planning Commission distributes the FTA funds. Before the storm, the RPC was receiving approximately \$11–13 million in federal transit funds per year. Federal disaster funds have assisted in restoring the system.

Buses

Prior to Hurricane Katrina, NORTA had 82 bus routes and operated 306 buses during peak service. By mid-2009, service was restored to 30 routes using 59 buses. Approximately 200 vehicles were destroyed by floodwaters and are being replaced. Both before and after Hurricane Katrina, five bus routes accounted for over 30 percent of the total system ridership: Magazine (#11), Tulane (#39), St. Claude/Jackson Barracks (#88), Broad (#94), and Gen. De Gaulle (#107).

Funding for bus operations declined as a result of Hurricane Katrina. Fare revenue and federal funds, which are based on the population of a system’s service area, both decreased dramatically, as the cost per passenger trip for the system increased from \$2.32 to \$7.31. Since Hurricane Katrina, NORTA has experienced a \$40 million annual operating shortfall. Riders have gradually begun to come back to the system.

In 2008–9, NORTA negotiated a contract with Veolia Transportation, a private company, to



Most bus stops currently lack shelters.



Only 30 of 82 bus routes have been restored since Hurricane Katrina.

operate the transit system. Veolia introduced new service in 14-seat minibuses, called L'il Easy, to serve Gentilly, Lakeview and the Lower Ninth Ward, where recovery and resettlement is still in process. This "flexible route" service has three fixed bus stops in the neighborhood where riders can transfer to other transit routes and 24 to 52 flexible stops (depending on the neighborhood) where reservations are needed.

TABLE 11.3: NEW ORLEANS REGIONAL TRANSIT AUTHORITY (NORTA): FINANCIAL INFORMATION

SOURCES	2004	2007
Operating Funds		
Fare Revenues	\$34,720,356	\$10,304,210
Local Funds	\$54,945,127	\$54,584,576
State Funds	\$9,063,438	\$8,484,972
Federal Assistance	\$15,387,363	\$8,654,682
Other Funds	\$2,032,269	\$4,049,162
Total	\$116,148,553	\$86,077,602
Capital Funds		
Local Funds	\$0	\$0
State Funds	\$1,548,413	\$2,556,228
Federal Assistance	\$27,479,429	\$9,700,592
Other Funds	\$0	\$0
Total	\$29,027,842	\$12,256,820

SOURCE: NORTA

The minibus goes to the flexible stops only when a rider has called at least an hour in advance to request service. Veolia also plans to introduce other customer service upgrades, such as stop improvements and a new website.

Streetcars

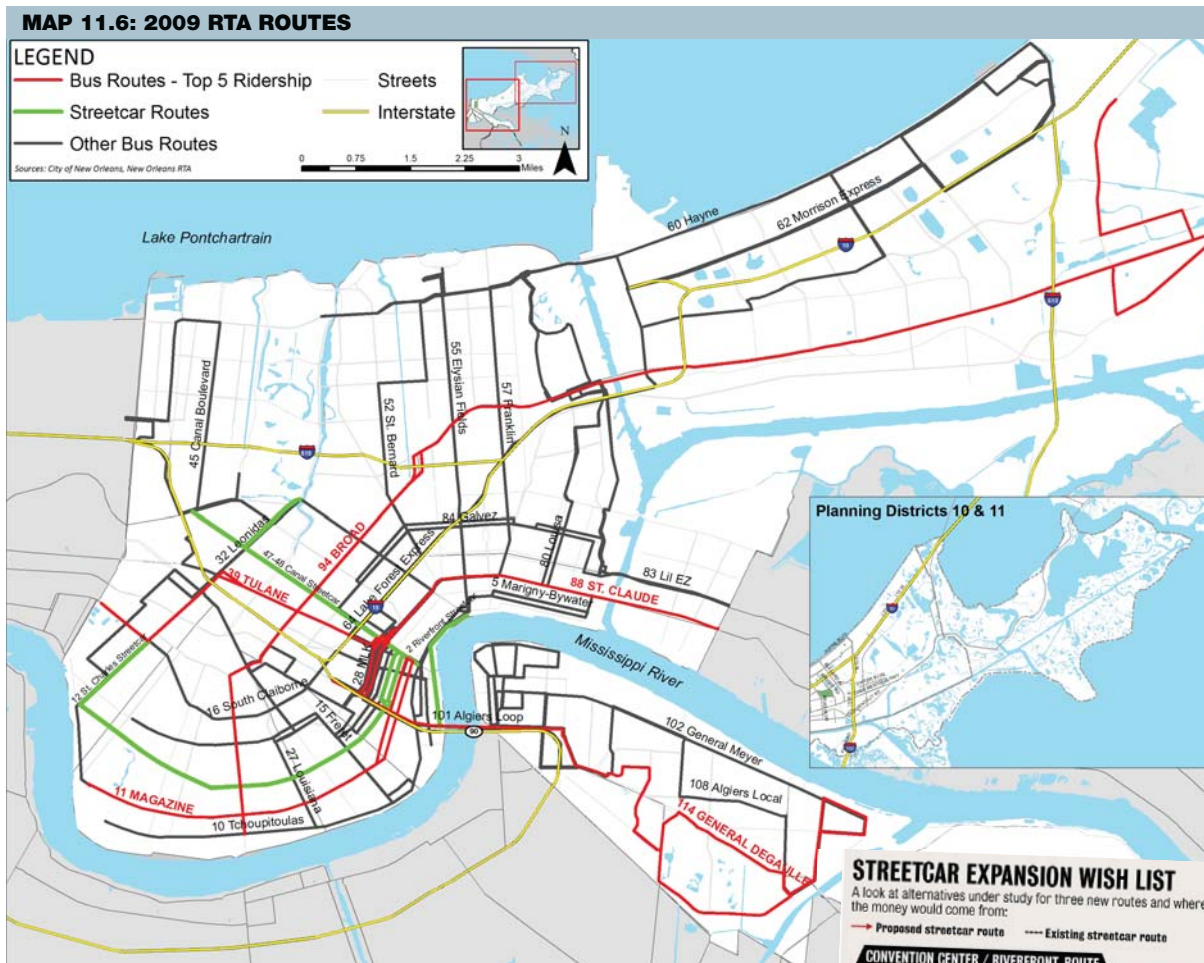
Much like the bus system, the streetcar system of New Orleans was devastated by Hurricane Katrina. When the hurricane struck, three streetcar lines operated in the city: the Canal Street line, which had reopened a year before Hurricane Katrina after being inactive for 40 years; the Riverfront line, which opened in 1988; and the St. Charles Avenue line, which dates from the 19th Century.

In December of 2005, service resumed on the Canal Street and Riverfront lines with St. Charles Avenue cars being used. New Orleans was granted a federal exemption to use the St. Charles vehicles, which are not ADA accessible, on the other two lines. By June of 2008, service was restored on the entire St. Charles Avenue line. All pre-Hurricane Katrina streetcar lines in New Orleans have now resumed operation. NORTA has been repairing the streetcars damaged by floodwaters and bringing them back into service as repairs are completed. It is expected that all damaged cars will be back in service by 2011.

Powered directly by electricity, streetcars and light rail have lower carbon emissions and point-source pollution than diesel fueled transit and renewable sources of energy can be purchased to further reduce emissions associated with the system. Streetcars tend to attract a larger percentage of the population along their routes than buses. Streetcars also serve well-populated and tourist-oriented portions of the city. By October 2008, streetcar ridership had reached 61 percent of pre-Hurricane Katrina levels. As of September 2009 NORTA is evaluating three options for streetcar extension: a line along Convention Center Boulevard that would mainly serve visitors; a line on Loyola Avenue from Lee Circle to Canal; and a French Quarter-Elysian Fields-Press Street line to serve Tremé. Estimated costs for all three lines is \$212 million of which \$121 million would be sought from the federal government, including \$95 million from federal stimulus funds. The remainder would be funded locally through sale of bonds backed by sales tax revenues, and other funding including \$13 million from a reserve account. Additional alignments have been identified for study. **(See Volume 2, Chapter 11 for more details.)**



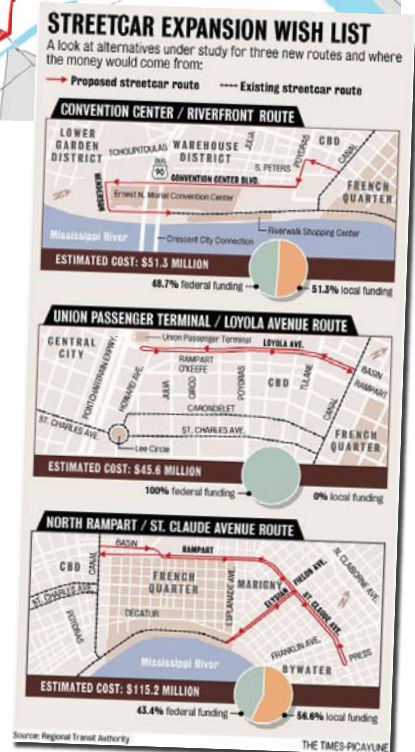
Canal Street streetcar line resumed service in 2008.



Experience in New Orleans and other cities in the United States and around the world has shown that streetcars and light rail can enhance livability, connect destinations, improve transportation options, and boost retail business and development activity along their routes. Streetcars have been effective at increasing transit ridership by improving the quality of service for existing bus riders and attracting new riders to the transit system. Typically a conversion to rail transit results in a 30 percent increase in ridership on a route, which also allows lower parking ratios, makes compact, mixed-use development more economically viable and helps connect students, tourists, and neighborhood residents to commercial districts, schools, and cultural institutions.

Ferries

Waterfront cities all over the country are expanding ferry service as an extension of their transit networks. Although they often need subsidy, they can provide economic and environmental benefits. Expanding ferry operations in New Orleans to service more areas could have numerous benefits including reducing car traffic and associated pollution for commuters; creating business opportunities in neighborhoods near ferry landings; creating a more significant tourist attraction to offset operating costs; and providing an additional means of evacuation in emergency situations.



Three downtown streetcar connector routes are currently under study by the RTA.

The Crescent City Connection Division of the Louisiana Department of Transportation operates three ferries across the Mississippi River in New Orleans in addition to operating the Crescent City Connection. A ride across the river costs \$1.00 per vehicle, or 50 cents for a multiple use pass. One ferry connects Canal Street with Algiers, another is upriver and connects Jackson Avenue with Gretna, and the third is downriver and connects Chalmette with Lower Algiers. The ferry at the foot of Canal Street operates until midnight and is popular with tourists, while the others are more commuter-oriented. The ferries are heavily subsidized by the bridge tolls, and have a daily operating deficit of \$20,000. Reductions in ferry service hours are being considered in 2009 as a means of reducing operating deficit.

F. RAIL SERVICE

Passenger Rail Service

Amtrak provides intercity passenger rail service. Amtrak's Union Passenger Terminal is located along the Pontchartrain Expressway near the Louisiana Superdome. The City of New Orleans route provides service to Chicago, the Crescent route provides service to New York by way of Atlanta and Washington, and the Sunset Limited provides service to Los Angeles. (The Sunset Limited train had operated between New Orleans and Jacksonville from 1996 to 2005, but Hurricane Katrina destroyed the track. Although the track was rebuilt by the CSX Railroad, Amtrak has suspended service indefinitely.) Nationally, only a handful of cities are served by this many Amtrak lines.

Proposed Regional Rail Service

Proposed passenger rail projects include a rail connection to Baton Rouge and high speed rail along the Gulf Coast stretching from Houston to the Florida panhandle. As of 2009, there is no passenger service between New Orleans and Baton Rouge and service along the Gulf Coast—provided by Amtrak—is slow and unreliable. Freight railroads own the tracks and give freight trains priority. A trip from New Orleans to Houston, approximately 350 miles, is scheduled at nearly 10 hours. A federal initiative for high speed rail announced in 2009 provides \$8 billion in funding to advance projects along ten potential corridors including a Gulf Coast line that would serve New Orleans.

Freight Rail Service

New Orleans maintains superb rail connections to virtually any part of the country, with the midwest being especially well served. The federal government classifies freight railroads based on revenue, with Class I railroads being those that have the highest revenue. There are currently seven Class I railroads in the United States, and six have a line passing through New Orleans, more than any other deep water port in the U.S. Each of these railroads maintains an intermodal terminal in different parts of the metropolitan area, which allows for train to train and truck to train transfers of materials. Many trains in New Orleans deliver goods to or from the port. For 100 years, this transfer of goods has been facilitated by the New Orleans Public Belt Railroad (NOPB). This city-owned railroad connects with all other railroads and provides direct service along the “front belt” railroad tracks of the Port of New Orleans, allowing for dock to rail transfers. The NOPB also serves industrial property along either side of the Industrial Canal. The Huey P. Long Bridge, owned and operated by the New Orleans Public Belt, is the southernmost rail crossing of the Mississippi River and is therefore a critical component of the entire country's rail infrastructure.

Despite the quality of rail access to New Orleans, some improvements are needed. There are a number of bottlenecks in the network that add considerable delays. Many at-grade crossings impede the flow of traffic, reduce quality of life in neighborhoods, and create safety hazards; and the location of critical rail infrastructure complicates hurricane evacuation routes and proposed transportation infrastructure in the region. To address these concerns, the six Class I railroads, the New Orleans Public Belt Railroad and the Regional Planning Commission prepared the New Orleans Rail Gateway Study in 2007 to identify needed capital improvements. Among the proposed improvements were more coordination of facilities to improve the management of train movements; expansion of rail marshalling facilities at railroad

terminals; reduction of dangerous at-grade crossings; and removal of barriers to the construction of a proposed light rail route from downtown to the airport. The study did not include community participation or review and funding for these improvements has yet to be identified.

G. AIR SERVICE

New Orleans is served by two airports—the Lakefront Airport, and the Louis Armstrong New Orleans International Airport (LNOIA). The Lakefront Airport is a general aviation facility and Louis Armstrong New Orleans International Airport is the city’s only airport with commercial service. The Lakefront Airport is located in eastern New Orleans on a peninsula extending into Lake Pontchartrain, and Louis Armstrong New Orleans International Airport is located approximately 12 miles west of downtown in the suburb of Kenner. Louis Armstrong New Orleans International Airport is owned by the City of New Orleans and governed by the City’s Aviation Board, while Lakefront Airport is state owned and operated.

In 2004, Louis Armstrong New Orleans International Airport served a record 9.7 million passengers. The airfield itself was not flooded or damaged by the storm, but some buildings sustained damage. Commercial service has gradually been restored after a brief closure and passenger levels have continued to increase. In 2008, the airport served 7.5 million passengers, or 77 percent of the 2004 record level. As of late 2009, Louis Armstrong New Orleans International Airport is served by nine commercial airlines and offers nonstop flights to approximately 35 domestic destinations and several international destinations. Ground connections to the airport include taxis, shuttle services, and local buses. The proposed New Orleans-Baton Rouge light rail connection would include a stop at the airport.

Airport capacity constraints are not reducing the number of flights into the airport. Compared to similarly sized cities, New Orleans’ pre-Hurricane Katrina service was actually slightly above average, and since Hurricane Katrina, the number of flights and the total number of passengers at Louis Armstrong New Orleans International Airport are roughly in line with the overall population recovery of the region to date. Given that New Orleans’ runways are operating at only 65 percent of capacity, there is no pressing demand for a new airport or a major increase in capacity in the New Orleans region. However, the airport’s concourses, concessions and retail offerings need to be upgraded and many improvements are planned or are already underway. The airport’s rental car facility is being overhauled. Additional gates will be added to one of the newer, attractive concourses, and additional concourse expansions are being studied. These and further improvements are needed to provide a more appealing “front door” to the community and to better position the airport to capture any future increase in airline traffic should demand increase.

While owned by the City of New Orleans, the airport is located primarily in the City of Kenner (an incorporated place within Jefferson Parish) and partially within St. Charles Parish. Airport development projects are subject to conditional permit review by the City of Kenner. That means that modifications to airport facilities have to go through the same land use process as, for instance, a Wal-Mart. The airport cannot use eminent domain powers as it is a City of New Orleans facility located entirely outside of city boundaries. The New Orleans Business Council and business leaders in surrounding parishes in 2008 made a controversial proposal to change the governance of the airport, proposing a Southeast Regional Airport Authority, with board appointments by the state, governor and the mayor. The city would receive a payment from the state with which it could float bonds with proceeds estimated in 2008 at \$500 million. The bond proceeds would be targeted at downtown for a “sports and entertainment” district near the Superdome and New Orleans Arena, the government center around City Hall, the medical district, the theater district, and a six-mile stretch of downtown riverfront. An independent authority would make the decisions on investment of these funds. The state would make major improvements to the airport expected to lead to expanded passenger and cargo traffic.¹

¹ “N.O. council cautious on airport plan,” *New Orleans Times-Picayune*, May 14, 2008.

The legislature created a nine-member Southeast Regional Airport Authority with the responsibility to conduct a study, for which the state in 2009 said it might provide funding. The Authority was also given the right “to expropriate property, issue bonds and ‘acquire, construct, lease, operate, maintain or manage airports and airport facilities’ in Orleans, Jefferson and St. Charles parishes,” though no right to do anything in an existing airport. In addition to studying the governance proposal, the group plans to study the possibility of privatizing the management of the airport to increase revenue from sources such as concessions, parking and real estate deals.²

New Orleans is also home to the New Orleans Downtown Heliport, located adjacent to the Superdome atop a parking structure. Operated by the New Orleans Aviation Board, the facility is open to helicopter traffic 24-hours a day and served by nine operators offering charter service and tours. Two medical service helicopters also utilize the facility.

H. PORTS

Southeastern Louisiana, from Baton Rouge to the Gulf of Mexico, contains the largest port system in the world. The Port of New Orleans is not one location but rather a collection of facilities scattered throughout the city. Major port facilities are located along the Mississippi River upriver of downtown, along the Industrial Canal, and along the Intercoastal Waterway. In 2006, the Port ranked 6th nationally in domestic trade, with 38 million tons of cargo, and 8th nationally in foreign trade, with 39 million tons of cargo. The type of cargo handled by the port is highly diversified. Separate from the Port of New Orleans is the Port of South Louisiana, which stretches along both sides of the Mississippi River from New Orleans to Baton Rouge. This port is the largest in the Western Hemisphere in terms of cargo tonnage handled annually.

The Mississippi River and its tributaries drain parts of 31 American states and 2 Canadian provinces. New Orleans is the last major city along the river and can be reached by oceangoing ships. For these reasons, the Port has always played an important role in the development and economy of New Orleans. The amount of cargo traffic at the Port of New Orleans and the Port’s potential to capture additional trade are tied both to the quality of the Port’s operations and to trends in international trade and shipping. The most significant international development is the expansion of the Panama Canal which from 2014 will allow the largest container ships a direct, cost effective route to ports serving the southern, midwestern, and eastern United States. More and more commodities and finished goods are now shipped in metal containers, rather than being shipped as non-containerized “break bulk” cargo. New Orleans, for a variety of reasons, has historically been much more of a break bulk port than a container port. In light of these recent and anticipated trends, it is critical that the Port of New Orleans have competitive facilities that will be able to accommodate substantial additional container capacity.



The Port of New Orleans ranks 6th nationally in domestic trade, and 8th in international trade.

With the completion of the Napoleon Avenue container terminal in 2004, the center of gravity for the Port’s activities shifted westward from the Industrial Canal back to the Mississippi River. With the closure of the Mississippi River Gulf Outlet (MRGO), the only remaining deepwater access to the Industrial Canal is through the Industrial Canal lock to the Mississippi River. Constructed in the 1920s and

² “Louis Armstrong International Airport buyout study still in hangar after delays,” *New Orleans Times-Picayune*, February 12, 2009.

declared functionally obsolete in the 1950s, the planned replacement lock project has been the source of considerable friction between the Army Corps of Engineers (ACE) and Port of New Orleans on the one hand, and a large contingent of residents and neighborhood groups in adjacent areas as well as numerous civic organizations, on the other. A location for the new facility has been selected that would not displace any residents, but significant concerns remain about the neighborhood and environmental impacts of the project. A further study should be commissioned by the City to identify strategies to best mitigate neighborhood impacts.

The cruise ship business has played an increasing role in the Port of New Orleans' operations. The Port invested considerable resources in upgrading its cruise facilities. The Erato Street terminal, completed in 2006, includes a modern cruise terminal and a dock-side parking garage for travelers. With the anticipated increase in traffic, additional facilities will be needed, and planning is already well underway for a new cruise terminal at Poland Avenue in the Bywater neighborhood.

The Port estimates that \$1 billion in capital investment is needed to keep the Port competitive in the next decades. **(See Chapter 9 for a discussion of port facilities.)**

3. Transportation and Storm Evacuation

Following Hurricane Katrina, the City of New Orleans changed its evacuation procedures and will no longer offer shelter within the city. All residents are now expected to leave when alerted by the authorities. To increase the capacity of freeways, contraflow is used to allow for outbound traffic to use both the inbound and outbound lanes of I-10 west of New Orleans and other freeways away from the city where bottlenecks would otherwise form.

For those who do not have access to a vehicle and are unable to drive out of the city on their own, transportation is provided. Seventeen evacuation pick-up facilities have been set up throughout the city—4 at senior centers and 13 in neighborhoods for use by the general population. From these facilities, residents will be transported by bus to a staging area near the Amtrak station and New Orleans Arena. From the staging area, residents will be able to leave the city on buses or trains. These procedures were used effectively in advance of Hurricane Gustav in 2008.

B What The Public Said

Three broad issues appeared repeatedly in previous New Orleans plans and also emerged as the top transportation concerns during the Master Plan process:

- Repair streets and roads.
- Improve connectivity and accessibility of key sites and open space.
- Expand public transit service.

In addition, during the Master Plan process, participants in a citywide forum were asked to respond to two questions:

- What can New Orleans do to make public transit a better option? If you do ride transit, what would make the experience better? If you don't, what would make you jump on board?
- What things should New Orleans be doing to make itself a more pedestrian- and bicycle-friendly city?

A handful of themes emerged from this discussion:

- Expand public transit options throughout the city.
- Improve transit accessibility with a coordinated, multimodal transit system.
- Provide more frequent, timely, and reliable transit service and user-friendly information.
- Improve the safety of public transit.
- Improve waiting areas for public transit.
- Expand the streetcar system.
- Create a network of dedicated bike lanes throughout the city.
- Build light rail to connect the central business district, airport, and other key points citywide.
- Provide public transit to major employment centers.
- Make downtown parking more accessible and provide park and ride service to downtown.
- Create walking trails and paths throughout the city.
- Study the removal and replacement of I-10 Claiborne Expressway with a tree-lined urban boulevard.